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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,986	09/23/2003	Lee Kong Weng	70030735-1	4231

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AGILENT TECHNOLOGIES, INC.
Intellectual Property Administration
Legal Department, DL429
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

PAYNE, SHARON E

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,986

Applicant(s)

WENG ET AL.

Examiner

Sharon E. Payne

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0604</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 7 June 2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the patent number for the last entry is incorrect. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1). (The first patent in the IDS was considered.)

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: gold should be explicitly mentioned in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (U.S. Patent 6,715,901) in view of Zou et al. (U.S. Patent 6,186,649).

Regarding claim 1, Huang discloses a ceramic cavity (reference number 20, Fig. 5) comprising a substrate for mounting a light emitting diode (column 5, lines 5-10) and substantially vertical sidewalls for minimizing light leakage (Fig. 5), and a reflective coating (reference number 25) on a portion of the ceramic substrate for reflecting light in a predetermined direction (Fig. 5). (The end portions of the sidewalls of Huang are substantially vertical.) Huang does not specifically disclose that the reflective coating is metal.

Zou et al. discloses that it is old and well known to use metals as a reflective coating (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the metallic coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Concerning claim 4, Huang does not disclose using silver as a reflective coating. Zou et al. discloses the metallic coating comprising silver (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Regarding claim 5, Huang does not disclose using gold as a reflective coating. Zou et al. discloses the metallic coating comprising gold (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gold coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Concerning claim 7, Huang discloses the ceramic cavity being formed to contain a plurality of light emitting diodes (column 4, lines 62-67).

5. Claims 2, 14, 16, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Zou et al. and further in view of Kosman et al. (U.S. Patent 3,821,590).

Regarding claim 2, Huang does not disclose a cavity filled with an optically transparent material. Kosman et al. discloses a cavity filled with an optically transparent material (reference number 4, Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optically transparent material of Kosman et al. in the cavity of Huang to protect the LEDs while allowing light to transmit through the material.

Concerning claim 14, Huang discloses a ceramic cavity (reference number 20) comprising a substrate for mounting a light emitting diode (column 4, line 67) and sidewalls for reducing light leakage (Fig. 5), a reflective coating (reference number 25) on a portion of the ceramic substrate for reflecting light in a predetermined direction (Fig. 5), and a light emitting diode coupled to the substrate (column 4, lines 66-67). Huang does not disclose a metallic coating or an optically transparent coating for protecting the light emitting diode.

Zou et al. discloses using a metallic coating as a reflective coating (column 6, lines 10-15).

Kosman et al. discloses an optically transparent coating (reference number 4) for protecting the light emitting diode (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the metallic coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optically transparent material of Kosman et al. in the cavity of Huang to protect the LEDs while allowing light to transmit through the material.

Concerning claim 16, Huang does not disclose using silver as a reflective coating. Zou et al. discloses the metallic coating comprising silver (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Regarding claim 17, Huang does not disclose using gold as a reflective coating. Zou et al. discloses the metallic coating comprising gold (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gold coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Concerning claim 19, Huang discloses a plurality of light emitting diodes coupled to the substrate (column 4, lines 62-67).

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Zou et al. as applied to claim 1 above, and further in view of Barlian et al. (U.S. Patent 4,600,977).

Regarding claim 3, Huang does not disclose a white cavity being used as a reflective cavity. Barlian et al. discloses that one can use a cavity that is substantially white in color

(column 6, lines 23-25) or one with a metallic coating for reflecting the light (column 6, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the white reflective coating of Barlian over the metallic coating of Barlian for the apparatus of Huang depending on the desired illumination effects.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Zou et al. as applied to claim 1 above, and further in view of Gleason (U.S. Patent 1,340,443).

Regarding claim 6, Huang does not disclose the metallic coating being formed by plating. Gleason discloses the metallic coating being formed by plating (page 1, lines 110-112).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plating process of Gleason in the apparatus of Huang and Zou et al. to enhance the quality of the reflective surface. See page 1, line 110, to page 2, line 1, of Gleason.

8. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang and Kosman et al.

Regarding claim 8, Huang discloses the steps of forming a ceramic cavity (reference number 20) comprising a substrate for mounting a light emitting diode (column 4, lines 66-67) and substantially vertical sidewalls for reducing light leakage (Fig. 5), coating a portion of the ceramic cavity with a light reflective material (reference number 25, Fig. 5), and positioning a light emitting diode on the substrate (column 4, lines 65-67). Huang does not disclose the step of depositing an optically transparent material in the cavity to protect the light emitting diode.

Kosman et al. discloses the step of depositing an optically transparent material (reference number 4) in the cavity to protect the light emitting diode (Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the optically transparent material of Kosman et al. in the process of Huang to protect the light emitting diode while letting light pass through. See Fig. 1 of Kosman et al.

Concerning claim 13, Huang discloses the ceramic cavity being formed to mount a plurality of light emitting diodes (column 4, lines 62-67).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Kosman et al. as applied to claim 8 above, and further in view of Barlian et al.

Regarding claim 9, Huang does not disclose a cavity that is substantially white in color for reflective purposes. Barlian et al. discloses a cavity that is substantially white in color (column 6, lines 23-25) or a cavity that has a metallic coating (column 6, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the white cavity of Barlian et al. over the metallic coating of Barlian et al. in the apparatus of Huang depending on the desired illumination effects.

10. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Kosman et al. as applied to claim 8 above, and further in view of Zou et al.

Regarding claim 10, Huang does not disclose the reflective coating comprising silver. Zou et al. discloses the light reflective material comprising silver (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silver coating of Zou et al. in place of the reflective coating of Huang and Kosman et al. to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

Concerning claim 11, Huang does not disclose the reflective coating comprising gold. Zou et al. discloses the reflective material comprising gold (column 6, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gold coating of Zou et al. in place of the reflective coating of Huang to achieve a reflectivity of 80% to 93%. See column 6, lines 6-7, of Zou et al.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Kosman et al. as applied to claim 8 above, and further in view of Gleason.

Regarding claim 12, Huang does not disclose the reflective coating being formed by plating. Gleason discloses the reflective coating being formed by plating (page 1, lines 110-112).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plating process of Gleason in the process of Huang and Kosman et al. to enhance the quality of the reflective surface. See page 1, line 110, to page 2, line 1, of Gleason.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Zou et al. and Kosman et al. as applied to claim 14 above, and further in view of Barlian et al.

Regarding claim 15, Huang does not disclose a white cavity as the reflective cavity. Barlian et al. discloses a cavity that is substantially white in color (column 6, lines 23-25) or a cavity that is metallic (column 6, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the white cavity of Barlian et al. over the metallic cavity of Barlian et al. for the reflective coating of Huang depending on the desired illumination effects.

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Zou et al. and Kosman et al. as applied to claim 14 above, and further in view of Gleason.

Regarding claim 18, Huang does not disclose the metallic coating being formed by plating. Gleason discloses the metallic coating being formed by plating (page 1, lines 110-112).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plating process of Gleason in the apparatus of Huang, Zou et al. and Kosman et al. to enhance the quality of the reflective surface. See page 1, line 110, to page 2, line 1, of Gleason.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (571) 272-2379. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sep



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800